

WHAT IS CLAIMED IS:

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One or more stackable transmission line hangers, first and second ones of the hangers being configured to secure first and second transmission lines, respectively, to a supporting structure, each hanger comprising:

a transmission line retention section for accommodating a transmission line, the transmission line retention section including a first leg and a second leg extending therefrom, the first and second legs allowing the hanger to accommodate various sizes of transmission lines, the first and second legs each including a locking barb configured to lock against an attachment surface; and

a mounting section extending from the transmission line retention section, the mounting section including a mounting hole disposed therein; wherein the transmission line retention section and the mounting section are arranged to dampen cable vibration.

2. The transmission line hanger of claim 1, the locking barb being configured to lock against the attachment surface once the locking barb is inserted through an aperture of the attachment surface.
3. The transmission line hanger of claim 1, the locking barb being configured to lock against the supporting structure once the locking barb is inserted through an aperture of the supporting structure.
4. The transmission line hanger of claim 1, wherein the locking barb being configured to lock against the mounting section once the locking barb is inserted through the mounting hole.
5. The transmission line hanger of claim 1, wherein the mounting hole is defined by a wall having a lip extending around the entire mounting hole.

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6. The transmission line hanger of claim 1, wherein the mounting hole is defined by a wall having a lip, the locking barb including a notch that is configured to lock against the lip once the locking barb is inserted through the mounting hole.
7. The transmission line hanger of claim 6, wherein the locking barb includes two notches that are configured to lock against the lip once the locking barb is inserted through the mounting hole.
8. The transmission line hanger of claim 1, wherein the mounting hole is square.
9. The transmission line hanger of claim 1, wherein the mounting hole is circular.
10. The transmission line hanger of claim 1, further comprising a compliant area, the compliant area being disposed between the retention section and the mounting section and allows the first and second legs to be compressed toward each other and to expand away from each other by spring force.
11. The transmission line hanger of claim 10, wherein expansion of the first and second legs away from each other brings the first and second legs into contact with a wall that defines an aperture of the attachment surface once the locking barb is inserted through the aperture.
12. The transmission line hanger of claim 1, wherein the first and second legs include respective first and second spring fingers flexibly connected to and projecting inwardly from the respective first and second legs, the first and second spring fingers being configured to retain the transmission line.
13. The transmission line hanger of claim 35, wherein each spring finger penetrates into a jacket of the transmission line to minimize longitudinal movement of the transmission line with respect to the hanger.
14. The transmission line hanger of claim 12, wherein the first and second legs include a first and second curved member, respectively.

15. The transmission line hanger of claim 14, wherein the first and second spring fingers are located on the first and second curved members respectively.

16. The transmission line hanger of claim 1, wherein the retention section includes opposing first and second areas of resistance.

17. The transmission line hanger of claim 1, wherein the transmission line hanger is a unitary structure.

18. The transmission line hanger of claim 1, wherein the transmission line hanger is comprised of metal.

19. The transmission line hanger of claim 1, wherein the retention section includes a pair of opposing transmission line stops connected thereto and projecting inwardly therefrom for inhibiting the transmission line from moving into the mounting section.

20. The transmission line hanger of claim 19, wherein the opposing stops extend inwardly in a generally straight line from the first and second legs.

21. The transmission line hanger of claim 19, wherein the opposing stops are generally concave to match a curvature of the transmission line cable.

22. The transmission line hanger of claim 1, wherein the first and second arms each include a pair of stop arms extending downwardly at an angle to engage a top of the attachment surface.

23. The transmission line hanger of claim 22, wherein the stop arms also include a side wall that extends generally orthogonal to the first and second legs.

24. The transmission line hanger of claim 1, wherein the transmission line retention section is adapted to pivot relative to the mounting section, such that the transmission line hanger can dampen cable vibration.

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25. The transmission line hanger of claim 24, wherein the transmission line retention section is constructed of a flexible material, enabling the transmission line retention section to pivot relative to the mounting section.

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26. A method for securing one or more transmission lines to a supporting structure comprising:

5 providing one or more stackable transmission line hangers each including a transmission line retention section for accommodating a transmission line, the transmission line retention section including a first leg and a second leg extending therefrom, the first and second legs allowing the hanger to accommodate various sizes of transmission lines, the first and second legs each including a locking barb configured to lock against an attachment surface having an aperture disposed therein, and a mounting section extending from the transmission line retention section, the mounting section including a mounting hole disposed therein, wherein the retention section and the mounting section are arranged to dampen vibration;

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15 placing the retention section around the transmission line;  
inserting the locking barb through the aperture; and  
locking the locking barb against the attachment surface.

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27. The method of claim 26, wherein the step of locking the locking barb includes locking the locking barb against the supporting surface.

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28. The method of claim 26, wherein the step of inserting the locking barb comprises inserting the locking barb through the mounting hole of another of the hangers and the step of locking the locking barb includes locking the locking barb against the mounting surface of another hanger.

29. The method of claim 26, the locking barb of another hanger including a notch, further including locking a notch of the locking barb of another hanger against a lip of a wall defining the mounting hole once the locking barb is inserted through the mounting hole.

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30. The method of claim 26, further including pressing the first and second legs toward each other to enable the locking barb to fit through the aperture.

31. The method of claim 30, further including releasing the first and second legs such that they expand away from each other and bring the first and second legs into contact with a wall defining the aperture once the locking barb is inserted through the aperture.

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32. The method of claim 26, further including penetrating spring fingers of the first and second legs, respectively, into a jacket of the transmission line to minimize longitudinal movement of the transmission line with respect to the hanger.

33. One or more stackable transmission line hangers, first and second ones of the hangers being configured to secure first and second transmission lines, respectively, to a supporting structure, each hanger comprising:

a transmission line retention section for accommodating a transmission line, the transmission line retention section including a first leg and a second leg extending therefrom, the first and second legs allowing the hanger to accommodate various sizes of transmission lines, the first and second legs each including a locking barb configured to lock against an attachment surface; and

a mounting section extending from the transmission line retention section, the mounting section including a mounting hole disposed therein;

wherein the locking barb includes a folder over rib and is configured to lock against the mounting section of the first hanger once the locking barb is inserted through the mounting hole of the mounting section of the first hanger.

34. One or more stackable transmission line hangers, first and second ones of the hangers being configured to secure first and second transmission lines, respectively, to a supporting structure, each hanger comprising:

a transmission line retention section for accommodating a transmission line, the transmission line retention section including a first leg and a second leg

extending therefrom, the first and second legs allowing the hanger to accommodate various sizes of transmission lines, the first and second legs each including a locking barb configured to lock against an attachment surface; and

10 a mounting section extending from the transmission line retention section, the mounting section including a mounting hole disposed therein, wherein the mounting hole is defined by a wall having a lip, the locking barb including at least two notches that are configured to lock against the lip once the locking barb is inserted through the mounting hole.

35. The transmission line hanger of claim 34, wherein the mounting hole is circular.

36. The transmission line hanger of claim 34, wherein the lip of the mounting hole extends around the entire mounting hole.

37. One or more stackable transmission line hangers, first and second ones of the hangers being configured to secure first and second transmission lines, respectively, to a supporting structure, each hanger comprising:

5 a transmission line retention section for accommodating a transmission line, the transmission line retention section including a first leg and a second leg extending therefrom, the first and second legs allowing the hanger to accommodate various sizes of transmission lines, the first and second legs each including a locking barb configured to lock against an attachment surface, wherein the retention section further includes  
10 respective first and second curved portions, the first and second curved portions including respective first and second spring fingers flexibly connected to and projecting inwardly from the respective first and second legs, the first and second spring fingers being configured to retain the transmission line; and

15 a mounting section extending from the transmission line retention section, the mounting section including a mounting hole disposed therein.

38. One or more stackable transmission line hangers, first and second ones of the hangers being configured to secure first and second transmission lines, respectively, to a supporting structure, each hanger comprising:

a transmission line retention section for accommodating a transmission line, the transmission line retention section including a first leg and a second leg extending therefrom, the first and second legs allowing the hanger to accommodate various sizes of transmission lines, the first and second legs each including a locking barb configured to lock against an attachment surface, wherein the retention section includes a pair of opposing transmission line stops connected thereto and projecting inwardly and in a generally straight line therefrom for inhibiting the transmission line from moving into the mounting section; and  
a mounting section extending from the transmission line retention section, the mounting section including a mounting hole disposed therein.

39. A method for securing one or more transmission lines to a supporting structure comprising:

providing one or more stackable transmission line hangers each including a transmission line retention section for accommodating a transmission line, the transmission line retention section including a first leg and a second leg extending therefrom, the first and second allowing the hanger to accommodate various sizes of transmission lines, the first and second legs each including a locking barb configured to lock against an attachment surface having an aperture disposed therein, and a mounting section extending from the transmission line retention section, the mounting section including a mounting hole disposed therein;

placing the retention section around the transmission line;

penetrating first and second spring fingers of the first and second legs, respectively, into a jacket of the transmission line to minimize longitudinal movement of the transmission line with respect to the hanger, wherein the first and second spring fingers are flexibly connected to and projecting inwardly from the respective first and second legs;

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penetrating first and second opposing transmission line stops of the first and second legs, respectively, into a jacket of the transmission line to minimize longitudinal movement of the transmission line with respect to the hanger, wherein the first and second opposing transmission line stops are flexibly connected to and projecting inwardly from the respective first and second legs;

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inserting the locking barb through the aperture; and  
locking the locking barb against the attachment surface.

40. A stackable transmission line hanger of a snap-in type having a generally U-shaped body with arms which grip a transmission line, the distal ends of the arms being structured to snap-lock onto a transmission line support, the hanger having a snap-in stacking provision.

41. The apparatus defined by claim 40, wherein the distal ends of the arms are adapted to snap lock into an opening, and wherein the provision comprises an opening.

42. The apparatus defined by claim 41, wherein the opening is an aperture with a circular or other curved boundary.

43. The apparatus defined by claim 42, wherein the aperture has a stiffening flange.

44. The apparatus defined by claim 42, wherein the distal ends of the arms have barbs with a cross-sectional curvature substantially matching the curvature of the boundary along the area of engagement with the aperture.

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45. A stack of transmission line hangers comprising:  
a first stackable snap-in transmission line hanger having a generally U-shaped body with arms which grip a transmission line, the distal ends of which arms being structured to snap-lock onto a transmission line support, the hanger having a stacking provision; and  
a second stackable snap-in transmission line hanger snap-locked onto the provision.

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46. The apparatus defined by claim 45, wherein the distal ends of the arms are adapted to snap lock into an opening and wherein the provision comprises an opening.

47. The apparatus defined by claim 45, wherein the distal ends of the arms and the stacking provisions are structured such that wind-induced vibrations of the held transmission lines is damped.

48. The apparatus defined by claim 47, wherein the opening is an aperture with a circular or other curved boundary.

49. The apparatus defined by claim 48, wherein the aperture has a stiffening flange.

50. The apparatus defined by claim 48, wherein the distal ends of the arms have barbs with a cross-sectional curvature substantially matching the curvature of the boundary along the area of engagement with the aperture.

51. A transmission line hanger of a snap-in type having a generally U-shaped body with arms which grip a transmission line, the distal ends of which arms have barbs structured to snap-lock onto an edge of an opening in a transmission line support, each barb having an edge-engaging surface which is serrated or notched.

52. The apparatus defined by claim 50, wherein the hanger includes a snap-in stacking provision.

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53. The apparatus defined by claim 52, wherein the snap-in stacking provision comprises an opening adapted to be engaged by another snap-in hanger.

54. The apparatus defined by claim 53, wherein the opening is an aperture with a circular or other curved boundary.

55. The apparatus defined by claim 54, wherein the aperture has a stiffening flange.

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56. The apparatus defined by claim 54, wherein the barbs have a cross-sectional curvature substantially matching the curvature of the boundary along the area of engagement with the aperture.

57. A transmission line hanger of a snap-in type having a generally U-shaped body with arms which grip a transmission line, the distal ends of which arms have barbs structured to snap-lock onto an edge of an opening in a transmission line support, the hanger arms each having an outwardly extending brace which abuts the opposite surface of the edge from that engaged by a barb, the brace being rigid and structured to dig into, rather than slide along, the opposite surface when the hanger is side loaded.

58. The apparatus defined by claim 57, wherein the brace has an out-turned side with a distal edge which makes point contact with the opposite surface when the hanger is side loaded.

59. The apparatus defined by claim 58, wherein the brace has an in-turned side with a distal edge which engages the opposite surface, the out-turned and in-turned sides of the brace stiffening the brace and widening its footprint on the opposite surface.

60. The apparatus defined by claim 57, wherein the hanger includes a snap-in stacking provision.

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61. The apparatus defined by claim 60, wherein the snap-in stacking provision comprises an opening adapted to be engaged by another snap-in hanger.

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62. A transmission line hanger of a snap-in type having a generally U-shaped body with arms which grip a transmission line, the distal ends of which arms have barbs structured to snap-lock onto an edge of an opening in a transmission line support, the hanger arms each having means structured to abut the opposite surface of the edge  
5 from that engaged by a barb and create a fixed pivot point or line for the hanger when side loaded.

63. The apparatus defined by claim 62, wherein the hanger includes a snap-in stacking provision.

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64. The apparatus defined by claim 63, wherein the snap-in stacking provision comprises an opening adapted to be engaged by another snap-in hanger.

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